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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,444	06/26/2003	Jae-Cheol Sim	3364P112	2934
8791 7590 03/19/2007 BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD SEVENTH FLOOR LOS ANGELES, CA 90025-1030			EXAMINER BURROWES, LAWRENCE J	
			ART UNIT	PAPER NUMBER
			2616	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/19/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/606,444

Applicant(s)

SIM ET AL.

Examiner

LAWRENCE J. BURROWES

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-10 is/are rejected.
- 7) ☒ Claim(s) 4, 11 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 06/26/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. KR2002-72643, filed on November 21, 2002.

Specification

2. The disclosure is objected to because of the following informalities:

On page 4 line 9, the recitation of "2¹-1" seems to be a typo, if this is true, it is suggested applicant change to ---2¹---. Similar problem exists on page 8 line 17.

Appropriate correction is required.

Claim Objections

3. Claim 3 is objected to because of the following informalities:

In claim 3 line 4, the recitation of "2¹-1" seems to be a typo, if this is true, it is suggested applicant change to ---2¹---.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second section of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 6 is rejected under 35 U.S.C. 112, second section, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 6, the recitation of "the mask bit" has no antecedent basis.

6. The following is a quotation of the appropriate sections of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3 and 5-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al "Design of a Weighted Fair Queuing Cell Scheduler for ATM Networks" hereafter Chen.

For claims 1-3 and 5-10, Chen disclose servicing connections fairly according to the weight of each virtual connection in an ATM system including a plurality of virtual connections having a weight based on a requirement for service quality (page 405 column 2 lines 13-20), the apparatus comprising: virtual connection queues for temporarily storing a plurality of cells (see page 406 Figure 1, the cell store stores the cells) of each virtual connection having a weight given by a natural number N (see page 401 section 3.1, the weight is an integer and virtual connections are place in each weight); a plurality of scheduling weight queues having a weight given by a power of 2 and stores information of the virtual connection queue (see page 401 Figure 2 and section 3.1, the queues have a weight rate given by the power of 2 and multiple queues retain the weighted cells); a scheduling weight queue controller for controlling the virtual connection queue to select one of the scheduling weight queues (see page 406 Figure 1, output scheduler is implemented with the weighted fair queuing cell scheduler) having a weight given by a power of 2 and register the virtual connection queue

in the selected scheduling weight queues; and a queue selector (see page 406 Figure 1, queue selector) for selecting the scheduling weight queues in the order of high to low weight (see page 406 section 2), the rate at which the cells are transmitted would be selected from high to low since the WFQ has that algorithm programmed into it);

wherein the queue selector selects a scheduling weight queue that is not empty and that has the mask bit cleared and that has a weight being the highest one of the weights, if any, that is lower than the weight of the previously selected scheduling weight queue (see page 408 section 3.2, the fast forward algorithm);

further comprising: a mask bitmap including a plurality of mask bits (see page 4098-409 section 3.3 and Figure 4, the mask is increased depending on the number of rates needed) assigned to the individual scheduling weight queues, whereby the queue selector does not reselect the scheduling weight queue previously selected by as many as its weight (see page 408-409 section 3.3, wheel skipping algorithm); and a scheduling counter for updating the mask bitmap (see page 408 section 3.2, fast forward algorithm has a counter built in);

wherein the values of the mask bitmap are all cleared during initialization of the system or the scheduling counter (see page 408 section 3.2, when the algorithm is run it can be either occupied for cleared), and when the value of the scheduling counter increases from 2^{i-1} to 2^i , a mask bit corresponding to the scheduling weight queue having a weight of 2^{i-1} is set to 1 (see page 407 figure 3, the slot in the binary rate list is increasing which represents a count).

wherein the scheduling weight queue controller registers the virtual connection queue in the scheduling weight queue, when the virtual connection queue has a new input cell, or when the virtual connection queue still has a cell to be serviced after one cell is serviced by selection of the scheduling weight queue including the corresponding virtual connection queue (see page 407 section 3.1, the controller places the virtual connections on the scheduling wheels as a rate is needed); and

wherein when the weight N of the corresponding virtual connection queue is expressed as a series of addition of powers of 2 (see page 407 Figure 3, the rate list is the addition of rates), the scheduling weight queue controller registers the virtual connection queue in a scheduling weight queue having a weight equal to one term in the series of the virtual connection queue and the highest but lower than the weight of a scheduling weight queue currently selected by the queue selector, and if these conditions are not satisfied, the scheduling weight queue controller registers the virtual connection queue in a scheduling weight queue having a weight corresponding to the highest term among the powers of 2 expressing the weight of the corresponding virtual connection queue (see page 407 Figure 3).

Allowable Subject Matter

8. Claims 4 and 11-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art fails to teach a combination of the scheduling counter is initialized to "1" during the initialization of the system, the scheduling counter performing a counting operation when there is no non-empty scheduling weight queue having a highest weight with the mask bit not being set to "1", and the scheduling counter being reinitialized when the queue selector cannot find any scheduling weight queue to be selected and when the scheduling weight queues with the mask bit cleared are all empty;

forbidding to select the scheduling weight queues previously selected by as many as the weight of the scheduling weight queue, when the scheduling weight queues are selected; and

rehabilitating all scheduling weight queues, when there is no scheduling weight queue which is not forbidden.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Assa et al (6990115), Matsunuma (6091708), Duckering et al (6721325), Kataria (7177279), and Khaunte (6546017).
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAWRENCE J. BURROWES whose telephone number is (571) 270-1419. The examiner can normally be reached on Monday - Thursday 8am - 2pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing F. Chan can be reached on (571) 272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LJB


WING CHAN
SUPERVISORY PATENT EXAMINER